

Appl. No. 10/801,894
Amdt. Dated February 1, 2007
Reply to Office Action of November 20, 2006

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Docket No. IS01422AP
Customer No. 84588

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method for applying adhesive for securing a printed circuit board to a substrate, the method comprising steps of:

providing a first printing tool with a first plurality of apertures defined therethrough, wherein a top of at least one aperture has a larger area than a bottom of the at least one aperture;
placing the first printing tool upon a surface of at least one of the printed circuit board and the substrate;

printing a first liquid adhesive onto the surface through the first printing tool, the first liquid adhesive forming islands of adhesive within each aperture;

removing the first printing tool perpendicularly from the surface such that the first printing tool deforms edges of the islands of the first adhesive to form a raised edge above an exposed major face of the adhesive at a periphery of an island such that the smaller area of the bottom of the aperture assists in pulling adhesive material upwardly to form the raised edge around only a portion of a periphery of each island; and

curing the first liquid adhesive;

placing a liner on top of the first adhesive, such that the liner contacts the raised edge of a plurality of islands; and

removing the liner which includes residual adhesive, whereby the integrity of most of a major surface of the adhesive island is preserved before laminating the printed circuit board to the substrate.

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2. (original) The method of claim 1, wherein the first liquid adhesive is a silicone-based adhesive.

3. (original) The method of claim 1, wherein the step of curing the first liquid adhesive produces a tacky adhesive that slumps a negligible amount such that the raised edge is maintained above the exposed major face of the adhesive islands.

4. (cancelled)

5. (cancelled)

6. (original) The method of claim 1, wherein the providing step includes providing the first printing tool with connecting portions around the apertures such that the islands formed in the removing step have connecting open pathways defined therebetween to allow outgassing to an outside environment from between a laminated assembly of the printed circuit board and the substrate.

7. (original) The method of claim 1, wherein the providing step includes providing the first printing tool with straight connecting portions surrounding rectangular apertures such that the islands formed in the removing step are aligned in a regular array having straight connecting pathways defined therebetween.

8. (original) The method of claim 1, further comprising the steps of:
providing a second printing tool with a second plurality of apertures defined therethrough;
placing the second printing tool upon the surface;
printing a second thermally conductive liquid adhesive onto the surface through the second printing tool, the second liquid adhesive forming second islands of thermally conductive liquid adhesive within each aperture;
removing the second printing tool from the surface; and
partially curing the second liquid adhesive.

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9. (original) The method of claim 1, further comprising the step of laminating the printed circuit board to the substrate with the cured adhesive therebetween to deform any raised edges on the islands to be coplanar with the major face of the adhesive islands.

10. (currently amended) A method for applying adhesive for securing a printed circuit board to a substrate, the method comprising steps of:

providing a first printing tool with a first plurality of apertures defined therethrough, wherein a top of at least one apertures has a larger area than a bottom of the at least one apertures; placing the first printing tool upon a surface of at least one of the printed circuit board and the substrate;

printing a first liquid adhesive onto the surface through the first printing tool, the first liquid adhesive forming islands of adhesive within each aperture;

removing the first printing tool perpendicularly from the surface such that the smaller area of the bottom of the at least one aperture pulls adhesive material upwardly to form a raised edge above an exposed major face of the adhesive around only a portion of a periphery of an island such that the smaller area of the bottom of the aperture assists in pulling adhesive material upwardly to form the raised edge around only a portion of a periphery of each island;

curing the first liquid adhesive to produce a tacky adhesive that slumps a negligible amount such that the raised edge is maintained above the exposed major face of the adhesive islands;

placing a liner on top of the first adhesive, such that the liner contacts the raised edge of a plurality of islands;

removing the liner which includes residual adhesive, whereby the integrity of most of a major surface of the adhesive island is preserved; and

laminating the printed circuit board to the substrate with the cured adhesive therebetween to deform any raised edges on the islands to be coplanar with the major face of the adhesive islands.

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11. (original) The method of claim 10, wherein the first liquid adhesive is a silicone-based adhesive.

12. (original) The method of claim 10, further comprising the steps of:
placing a liner on top of the first adhesive, such that the liner contacts the raised edge of a plurality of islands; and
removing the liner before laminating the printed circuit board to the substrate.

13. (original) The method of claim 10, wherein the providing step includes providing the first printing tool with connecting portions around the apertures such that the islands formed in the removing step have connecting open pathways defined therebetween to allow outgassing to an outside environment from between a laminated assembly of the printed circuit board and the substrate.

14. (original) The method of claim 10, further comprising the steps of:
providing a second printing tool with a second plurality of apertures defined therethrough;
placing the second printing tool upon the surface;
printing a second thermally conductive liquid adhesive onto the surface through the second printing tool, the second liquid adhesive forming second islands of thermally conductive liquid adhesive within each aperture;
removing the second printing tool from the surface; and
partially curing the second liquid adhesive.